

XXIV.—Further Data and some Corrections on the

BREVICOLLIS Group of CICINDELÆ,

by

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I HAVE lately received (end of January, 1920), from Dr. Horn of Berlin, para-types (female labelled Senegal and male presumably from same country but unlabelled) of *Cicindela neglecta*, Dej. On comparing these insects with those that I tentatively assigned to *neglecta*, I find they are quite distinct forms. Seemingly this well defined race, which throughout its very considerable range remains remarkably stable in all its characteristics, has been overlooked or possibly, as in my case, wrongly determined from description alone. In my remarks, pages 172–173, Vol. II, Annals of the Durban Museum, I alluded to the discrepancies between Dejean's description of *neglecta* and the form I attributed to it, which left me much in doubt as to the correctness of my determination. This has proved to be well founded, and the insect thus wrongly assigned remains yet to be dealt with. I can find no written description that applies to it, therefore I propose to name it *reliqua*, a name appropriate to the circumstances. The following is a fuller description of it than that given in my original paper under the designation *C. brevicollis*, race *neglecta*, Dej.

CICINDELA RELIQUA, sp. nov.

Length 9½–12 mm. Width 4–5 mm.

Head and prothorax coppery bronze, with more or less of blue green and glowing red reflections about head and furrows of prothorax. Elytra bronze black (appearing quite black except in strong light), with pale testaceous markings; pectus and abdomen dark metallic blue to blue green; lateral margins of prothorax beneath, coxæ, femoræ and tibiæ more or less glowing to metallic purple; tarsi purplish. The sides of the sternæ and abdomen densely clothed with decumbent white hairs; legs with the usual sparse white hairs and setæ.

Labrum convex, triangularly produced in both sexes, central tooth in female prominent.

Antennæ, length medium to long, articles beyond 4th pubescent and slightly compressed, last joint squarely truncate.

Supra-ocular striation strongly developed and the whole of the head more or less plicated.

Prothorax transverse, gently rounded, sub-equal at base and apex, lateral margins densely fringed with short white decumbent hairs, disc bare, except for a few sparse hairs extending from neck along the median line.

Elytra short, broad, sides nearly straight, a little more explanate beyond middle in female than in male, serrated and gradually rounded to apical angle, which is sharply and briefly spinous; epipleure and a narrow inner margin purplish, sutural margins dark metallic or glowing bronze. The basal lunulate and sutural bands of pattern widely interrupted, forming three narrow elongate spots on either side, the lowest reaching to about middle; submarginal bands narrow to very narrow, continuous from base to apex, humeral and median rami given off from the submarginal bands in a downward diagonal direction, the latter bluntly elbowed about middle, thickened at apex and nearly reaching the suture above apical declivity: sub-apical teeth or rami short and pointing a little upwards.

The principal characteristics differentiating this race, from other members of the group, are the coarse striation and plication of the head, the transverse slightly rounded prothorax with its narrow fringe of white hairs, the short elytra with its exceptionally dark bronze ground and the downward curved, less elbowed median rami. The supra-orbital striation, dark ground colour, and in a lesser degree the diagonal trend of the median rami, are reproduced in its nearest South African ally *virida*, Boh., from which, however, it is easily discriminated by its less robustly convex form, much narrower pattern and uninterrupted sub-marginal bands.

Thanks to Dr. Horn's courtesy, I now have before me not only para-types of *neglecta*, Dej., but also a female from Gaboon and a male from Abyssinia of *discoidea*, Dej.; also the sexes of the following interesting members of this pattern group:—*C. abbreviata*, Klug. from Madagascar, *C. cancellata*, Dej. from Bengal Prov., India, its sub-sp. *subtilisculpta*, Horn from Formosa and *C. catena*, F. from Ceylon.

A careful comparison of the para-types of *neglecta* and *discoidea*, leaves little to justify their separation from one another, as other than geographical races. Dejean, in his description of *neglecta*, says "it greatly resembles *discoidea* but is slightly bigger and proportionally

wider. In the two examples before me, the *neglecta* are a little longer and the female is proportionally narrower, but with the same elongate oval outline. Further Dejean avers that the eyes of *neglecta* protrude a little more, but this difference is not apparent in my examples.

The pattern is identical in the two races, a little more broadly developed in the male *neglecta* than in the same sex of *discoidea*. The inter orbital striation and sculpture is a trifle coarser in the former than in the latter. The labra are identical in both races and are shaped exactly as in those of *intermedia*, Klug.; the same equally applies to the prothoracic and elytral contours of these three races in both sexes. There is a slightly greater inclination in the male *neglecta* to the rounding of the apical angles of the prothorax, but the female, presumably, from the same country has it as elongate and straight as in any examples of *discoidea* and *intermedia* that I have met with. The antennæ are unfortunately wanting in all but the female *discoidea*, which, however, shows the same slender tapering characteristics that pertain to *intermedia*, relatively perhaps a trifle shorter. With the very limited material at my disposal, it would be rash for me to say more, than that there are good grounds for believing these three races may form a distinct section, *discoidea* being the connecting link between *neglecta* and *intermedia*.

Dr. Peringuey has generously entrusted to me for examination and comparison his types of *C. herero* and *C. damara*.

The race which I tentatively assigned to the former proves to have been rightly determined by me, in my previous paper on the group.

C. damara is a more difficult subject to tackle and the type, a female, is unfortunately minus the antennæ. The figure of it in the author's Descriptive Catalogue, 1896, Plate I, is misleading, for it portrays a short broad insect with the robust facies of *C. candida*, Boh. and this is enhanced by the pattern which is very similar to that of the variety *mixta*, Chd. Dr. Peringuey's description (vide S.A. Trans. Phil. Soc., Vol. VII, p. 35) correctly defines it, "elytra elongated nearly plane on the upper part," but omits to add that the sides are sub-parallel for about $\frac{2}{3}$ their length, an unusual occurrence in the females of the group and very different to the ampliate slightly convex figure of *C. candida*, female. The labrum is as the author describes it "convex in the centre, triangular in front, tridentate at apex," and, in this respect again, it differs materially from that of *candida*, as it does also in its less produced mandibles. The prothorax of *candida* is transverse, that of *damara* is longer than broad. The lateral margins have a narrow fringe of white hairs, the disc being almost

denuded as in *reliqua mihi*; in *candida* the hairs are longer and sparsely distributed over the whole surface. The sculpture of the head is coarser and has well defined supra-orbital striation; the eyes are also more protruberant. The sum total of these differences quite preludes its acceptance as a variety or even near ally of *C. candida*.

Dr. Horn places *damara*, Per. as a variety of *neglecta*, Dej., and also records having received typical *neglecta* from the same locality, i.e., Sandwich Harbour (S.W. Africa). Comparing *damara* with my single female example of *neglecta*, some important divergences are shown. (1) The eyes are slightly more protruberant and approximate more than those of *neglecta* and its near relatives *discoidea* and *intermedia*. (The space between the eyes in these three races is usually a little wider than is met with in other members of the group). (2) The prothorax and elytra are proportionally shorter, and the latter is parallel sided, thus lacking the distinctive elongate oval contour characteristic of the females of *neglecta*, *discoidea* and *intermedia*.

On such points, as supra-orbital striation and shape of the labrum (the antennae being missing must remain in doubt), *damara* female agrees with *neglecta*, and may have been correctly placed by Dr. Horn, who has had more material on which to found an opinion. Per contra it must be conceded that the shape and garniture of the prothorax and the eyes of *damara* are identical with those of my *reliqua*. This may either indicate that the south western forms of *neglecta* approximate to *reliqua* or (what I think is more probable) that the nearest affinities of *damara* lie with *reliqua*.

In conclusion, I am venturing a few remarks upon the classification and the difficulty of determining the relative specific or sub-specific values of this interesting pattern group. The primitiveness of the insects included in the group is amply demonstrated by the vast range of their distribution, and as a sequence their low susceptibility to variation is shown also, by the very limited modifications of pattern, form and sculpture that occur.

These slight and often inconspicuous differences of details are, nevertheless, extraordinary stable, and are of greater importance on account of the large areas over which they are maintained.

As at present catalogued (vide Systematischer Index der Cincideliden 1905, by Dr. W. Horn), the following are listed as sub-species of *C. brevicollis*, Wied. :—*intermedia*, Klug., *discoidea*, Dej. *neglecta*,

Dej., *bertolonii*, Horn and *clathrata*, Dej. For some reason unknown to me *virida*, Boh. is placed as a variety of sub-species *neglecta*, to which it is not even the most nearly related. The claims of *C. bertolonii* to specific rank I have already dealt with in my previous paper, and they can therefore be omitted from further review. Adding *reliqua mihi* to the list (which under the old arrangement would probably be included as another sub-species of *brevicollis*), we have the following anomalies. *Intermedia* occurs frequently in association with either *clathrata* or *fasciculicornis*, as I have previously shown. From Bothaville, O.F.S., I have received *clathrata* and *reliqua*, and in November, 1919, at the Upper Tongaat, Natal, I personally came across and captured *reliqua*, *intermedia* and *fasciculicornis* within a few hundred yards of one another. Each of these forms has a very extended range and well defined characteristics, and, as at present classified, they are all sub-species of *C. brevicollis*, which obviously they cannot be. They are equally impossible as mere varieties. Their authors originally described them as species, and as such some of them at least must still be recognised.

Intermedia, *neglecta* and *discoidea* appear to be very intimately related, and so far as my present knowledge goes, they can only be accepted as geographical forms or races of one another. *Discoidea*, Dej. has priority of description, and must therefore rank as species, with the other two as sub-species of it. *C. virida*, Boh. and *C. reliqua mihi* are sufficiently distinct from one another and from *C. brevicollis* (which is also isolated geographically) to be retained as species, in the same section with *discoidea*.

C. brevicollis, Wied, is a very local race and only owes its importance, as head of the group, to being the earliest described. *Clathrata* has a much wider range than *brevicollis*, whose place in nature appears to be that of a strictly localized race or sub-species of the former. However; this change of arrangement is not desirable, and I think it would be better to treat each as species. The larger size, lighter ground with deeper yellow pattern, and the non-liability to vary that pattern on the lines affected by *brevicollis*, are sufficient reasons for keeping them apart.

The following classification appeals to me as the best that can be arranged for the Ethiopian members of the group, upon our present knowledge. *C. tetradia*, Fairm. and *C. quadraticollis*, Chd. with its sub-species, all from Madagascar, are unknown to me and are therefore omitted :—

SECTION A.

1. *Cicindela candida* Boh.
caffa, Klg. Dej. i.l.
var. *mixta*, Chd.
2. " *herero*, Pér.
race *braunsi*, *mihi*.
3. " *differeus*, Horn.

SECTION B.

4. " *abbreviata*, Klug.
baliensis Brancs. *circumdata*, Brancs.
5. " *brevicollis*, Wied.
hottentota, Klg-Gemm. et Har. i.l. *catena*.
var. *prima*, Thnb.
6. " *clathrata*, Dej.

SECTION C.

7. " *discoidea*, Dej.
heteromalla, Dej. i.l.
race or sub-sp. *neglecta*, Dej.
trifasciata, Oliv., Har.
" " *intermedia*, Klug.
8. " *reliqua*, *mihi*.
neglecta, m. olim (nec Dej.)
form *damara*, Pér. ?
9. " *vivida*, Boh.

SECTION D.

10. " *bertolonii* (Chd. i.l.), Horn.
race or sub-sp. *fasciculicornis*, *mihi*.

AFTERWORD.

Since writing the above I have received from Dr. Horn a letter, dated Berlin, March 7th, 1920, in reply to one from me of February 2nd, in which I pointed out that the form I had attributed to *neglecta* was not that form, but a distinct species for which I proposed the name *reliqua*. Unfortunately Dr. Horn had in the interim come to the same conclusion, and had forwarded the description for publication of a geographical race of this form or species from Kassai, Congo State, Central Africa, to which he has given the name *obliquo-gracilienea*, and which he thinks represents the parent form. This claim, however, can only be substantiated by proof that its distribution is greater than that of *reliqua*, which as I have shown previously is very large, embracing known localities so far apart as those of Natal, Transvaal, Orange Free State and Southern Rhodesia. Accompanying his letter, Dr. Horn kindly forwarded me a type of his *obliquo-gracilienea* male. It is undoubtedly the same species or sub-species as my *reliqua*, only differing from it in its light bronze instead of dark bronze ground colour, and in the more important details of the antennæ, which are shorter with the terminal joints, beyond the 4th, considerably broader and more compressed. Dr. Horn's insect has priority of publication, so my synonymic table, Section C, No. 8, should read :

C. obliquo-gracilienea, Horn, race or sub-sp. *reliqua*, *nihî*,
form or variety *damara*, Per. ?

ERRATA ET CORRIGENDA.

The following errors in my previous paper (Annals of the Durban Museum, Vol. II., Part 4), require correction :—

Page 175, line 6, to read Bushmanland for Bechuanaland.

Page 188, Plate XXV., No. 16, Bushmanland for Bechuanaland.

Page 179, lines 4-5, to read Umvuma for Umvuma River.

Page 185, Distribution Table for race *neglecta*, to read Umvuma for Umvuma River.